Executive Order VR-101-B

Exhibit 2

Installation, Maintenance and Compliance Specifications

This exhibit contains the specifications used for the proper installation and maintenance of the system by which compliance of the Gasoline Dispensing Facility (GDF) is to be determined.

General Specifications

1. The Phil-Tite System shall be installed and maintained according to the manufacturer's specifications and demonstrate compliance with the Certification and Test Procedures **Determination of 2 Inch H_2O Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities (TP-201.3)**, **Static Torque of Rotatable Phase I Adaptors (Exhibit 4)** and **Pressure Integrity of Drop Tube/Drain Valve Assembly (Exhibit 5).** Testing shall be successfully conducted within 60 days of installation and at least once every three years thereafter unless otherwise specified by the local district.

2. During all Phase I deliveries there shall be at least one vapor recovery connection between the cargo tank vapor recovery connection and the underground storage tank associated with each delivery.

Pressure/Vacuum Vent Valves For Storage Tank Vent Pipes

1. Vent pipes may be manifolded to produce a single vent outlet on which a single Pressure/Vacuum (P/V) Vent Valve is installed.

2. A maximum of 3 Pressure/Vacuum Vent Valves, not exceeding an additive leakrate of $\leq$0.17 CFH at 2.00 inches H_2O, shall be used on any single GDF.

3. Vent pipe manifolds shall be constructed of steel pipe or an equivalent material that has been listed for use with gasoline. If a material other than steel is used the GDF operator shall provide a manufacturers listing demonstrating that the material is compatible for use with gasoline. An example of a vent pipe manifold is shown in Figure 2U. This example reflects only one allowable configuration (i.e., tee may be located at either left, center or right side, and more or fewer vent pipes may be manifold together).

4. The vent pipe manifold shall be installed at a height not less than 12 feet above the grade used for gasoline cargo tank delivery operations and shall conform to all applicable fire regulations.

5. Each P/V Valve shall have permanently affixed to it a yellow or gold label with black lettering stating the positive and negative pressure settings specified below:

Positive pressure setting: 3.0 ± 0.5 inches H_2O
Negative pressure setting: 8.0 ± 2.0 inches H_2O

Rotatable Product and Vapor Recovery Adaptors

1. Rotatable product and vapor recovery adaptors shall maintain a minimum 360-degree rotation and average static torque not to exceed 108 pound-inch (9 pound-foot) when tested as specified in Exhibit 4.

2. The vapor adaptor poppet shall not leak when closed. The absence of vapor leaks may be verified with the use of commercial liquid leak detection solution, or by bagging, when the vapor containment space of the underground storage tank is subjected to a non-zero gauge pressure. (Note: leak detection solution will detect leaks only when positive gauge pressure exists).

Vapor Recovery and Product Adaptor Dust Caps

1. Dust caps shall be installed on all Phase I tank adaptors.

Drop Tube and Drain Valve

1. The Drop Tube and Drain Valve (Drop Tube/Drain Valve Assembly) is designed to drain liquid directly into the drop tube and is therefore isolated from the underground storage tank ullage. The leak rate of the Drop Tube/Drain Valve Assembly shall be determined by using the test method specified in Exhibit 5.

Double Fill Configuration

1. A Phil-Tite Double Fill Configuration shall be allowed for installation provided that no more than two fill points are installed on any single underground storage tank and that no offset of the vapor recovery riser pipe is installed. An example of a Phil-Tite Double Fill configuration is shown in Figure 2S.

2. Two vapor return hoses shall be connected to the double fill configuration with at least one connection to each cargo tank(s) used to simultaneously deliver gasoline through two product hoses into a single tank.

Vapor Recovery Riser Offset

1. A vapor recovery tank riser may be offset from the tank connection to the vapor recovery Spill Container provided that the maximum horizontal distance (offset distance) does not exceed twenty (20) inches.

2. A vapor recovery riser may be offset up to the maximum allowable horizontal distance with use of commercially available, four (4) inch steel pipe fittings, a Phil-Tite Model M-6050 Vapor Riser Offset, or a combination of the two products. The Phil-Tite Model M-6050 Vapor Riser Offset shall not exceed eight (8) inches in offset distance. An example of a Phil-Tite Model M-6050 configuration is shown in Figure 2R.

Threaded Riser Adaptor

1. A threaded Riser Adaptor, used to produce a true sealing surface at the top of a field threaded riser pipe, shall be used on each 4-inch riser pipe where a threaded connection that uses a gasket seal exists. Threaded connections that require use of a Riser Adaptor include the following:

a. Product Spill Container
b. Vapor Recovery Spill Container
c. Tank Gauging Components (i.e., threaded adaptor)

2. The Riser Adaptor shall provide a machined flat, square, sealing surface in which the component gasket can seal to.

Figure 2A

Facility Compliance Specifications

Component	Test Method	Standard or Specification
Rotatable Phase I Adaptors	Exhibit 4	Minimum, 360-degree rotation Maximum, 108 pound-inch average static torque
Drop Tube/Drain Valve Assembly	Exhibit 5	≤0.17 CFH at 2.00 inches H_2O
UST, P/V Valve, Fittings, Adaptors, and Connections	TP-201.3	2.00 inches H_2O - 5 minutes
Pressure/Vacuum Vent Valve	TP-201.2B Appendix 1	Positive Pressure: 3.0 ±0.5 inches H_2O Negative Pressure: 8.0 ±2.0 inches H_2O Leakrate: ≤0.05 CFH at +2.0 inches H_2O ≤0.21 CFH at –4.0 inches H_2O

Figure 2B

Maintenance Intervals for Phil-Tite System Components

Component	Maintenance Interval
Spill Container (SC-85100 Only)	Annually, See Figure 2E and 2F.
Rotatable Phase I Adaptors	Not field serviceable. See Figure 2I and 2J.
Pressure/Vacuum Vent Valve	Annually, See Figure 2O.
OPW 53 VM Series Ball Float	Every three years, See Figure 2Q.
Universal Model 37 Series Ball Float	Annually, See Figure 2P.

Each gasoline dispensing facility operator/owner shall keep a maintenance log on-site.

Figure 2C

Product Side Installation Using Phil-Tite System

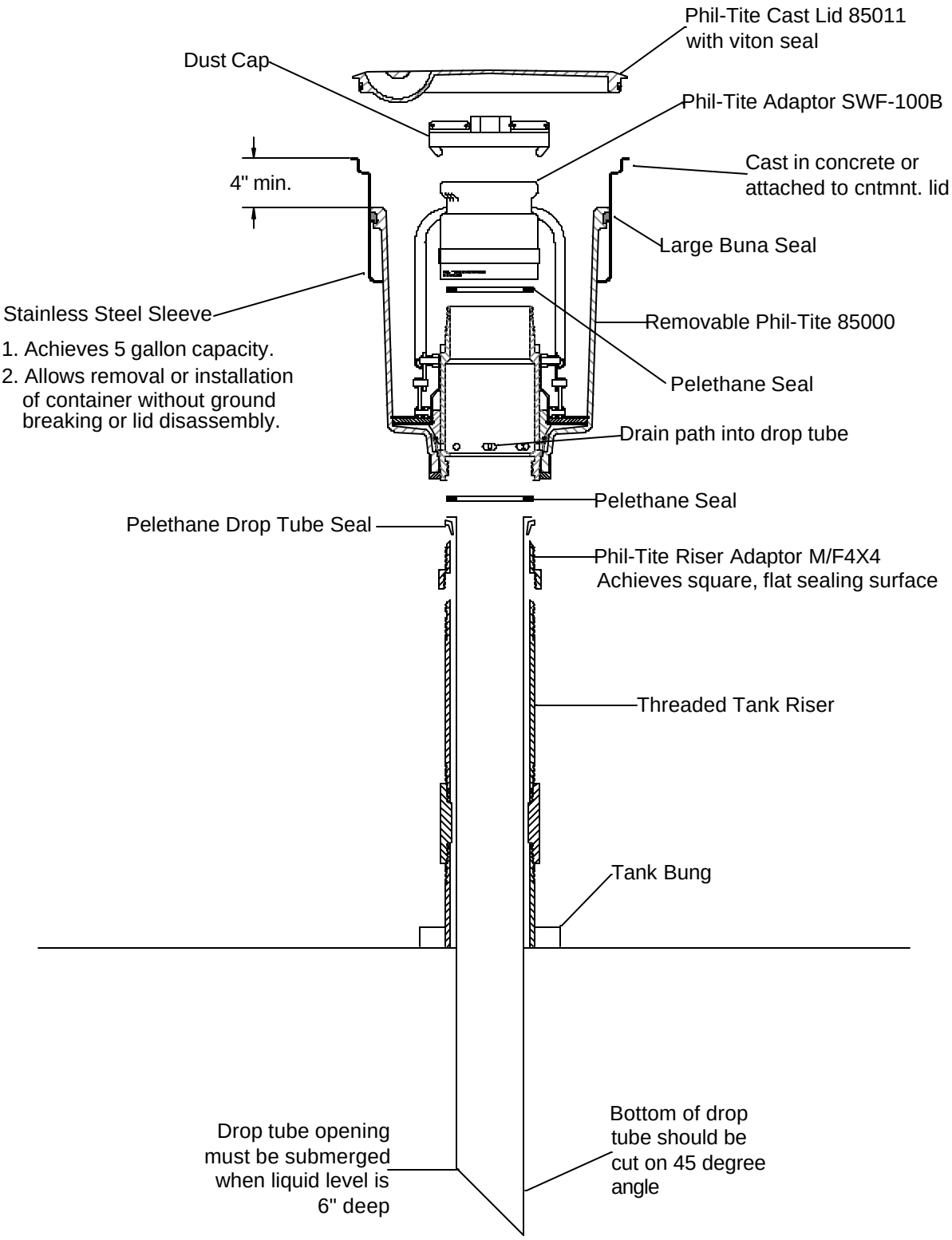


Figure 2D

Vapor Recovery Installation Using Phil-Tite System

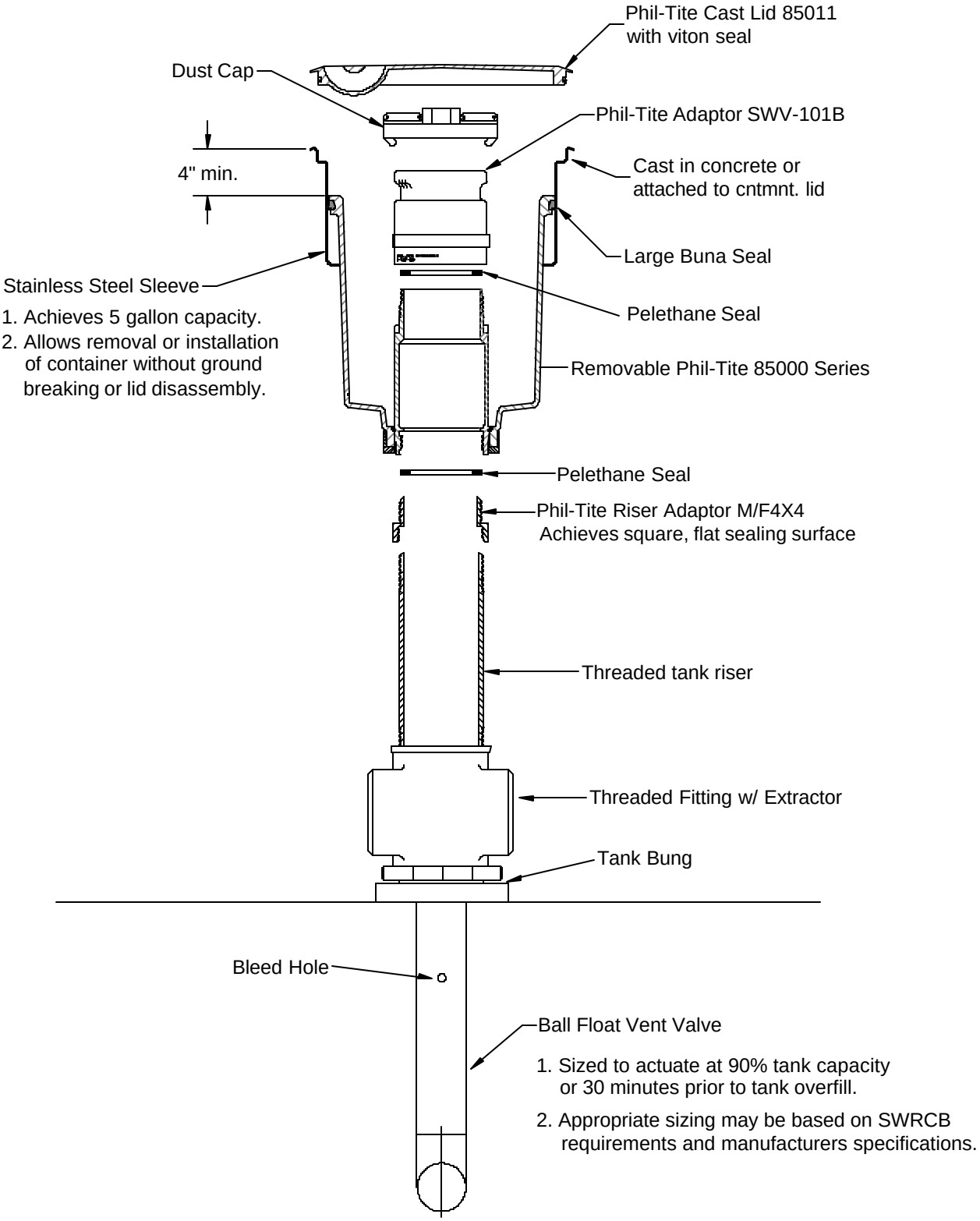
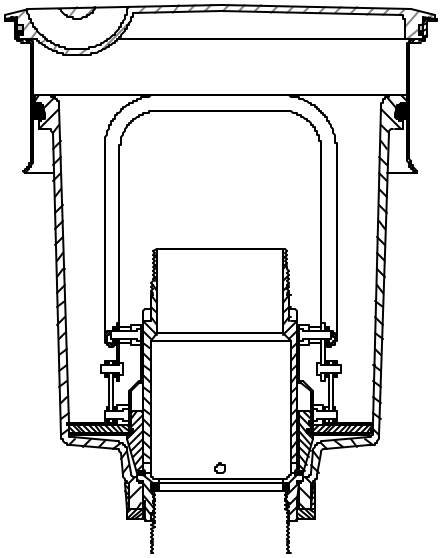


Figure 2E

Phil-Tite 85000 Product Spill Container and Drain Valve Assembly



Please detach here, fill out completely, and promptly mail back to manufacturer.

Phil-Tite Enterprises, Inc.
3732 Electro Way
Redding, CA 96002
Phone - 530-223-7400
Fax - 530-223-7418

WARRANTY CARD

This product is warranted by Phil-Tite Enterprises, Inc. against defective material and workmanship for 1 (one) year from installation date. We will repair/replace, as we deem necessary, product that has been verified defective by a representative of our company. Any damage caused by either freight or wrongful installation are not covered under this warranty. This warranty does not cover normal wear, or force majeure - caused by fire, flood, earthquake, explosion, war, or acts of God. Seals and O-rings are not a warranty item. Warranty is null and void if: a) item is disassembled, b) item is installed improperly, or c) warranty label has been tampered with or is removed from product.

Expiration Date: _____

Serial Number: _____

Model Number: _____ Mfg. Number: _____

This card must be returned to manufacturer for warranty to be honored

TO BE FILLED OUT BY INSTALLER/MAINTENANCE PERSON

Name of Maintenance/Service Company: _____

Address: _____

_____

Date of Install: _____

Name and Location of Install: _____

_____

_____

_____

PHIL-TITE 85000 SERIES SPILL CONTAINERS

Phil-Tite Spill Containers are designed to provide easy installation or removal of the container without the need for timely excavation or disassembly of secondary containment covers. Phil-Tite drain valves provide fast and complete removal of excess liquid spilled during a gasoline delivery operation while maintaining a vapor tight, reliable seal that eliminates leaks into the environment.

INSTALLATION:

(1) Ensure there is adequate clearence to provide at least 4 inches between the top of the Spill Container and the top of the stainless steel sleeve once final installation is complete. Use a tape measure to verify.

(2) Inspect the container ensuring that the flat lower seal is in place and properly oriented for sealing with the Riser Adaptor and top of drop tube.

(3) **SC-85100 Only**. Inspect the inner foam filter located inside the container. The filter should be resting on the bottom, secured by the snap ring.

(4) **SC-85100 Only**. Move the bail handle back and forth making sure that the lower assembly rises when moved to the open position and compresses when closed. The bail handle should move freely with no binding and snap into place when moved to the closed postion.

(5) **NOTE! DO NOT USE ANY TYPE OF THREAD SEALING COMPOUND FOR SPILL CONTAINER INSTALLATION!** Apply an even coat of Silicon based spray to the large, outer seal of the container and the inside of the stainless steel sleeve to ease insertion. By hand, thread the container onto the Riser Adaptor taking care not to cross thread. Phil-Tite Spill Containers create an optimum, leak free seal when properly tightened to the tank riser as described in item #6.

(6) Using an approved installation tool (Phil-Tite T-7043-1 Tool Kit) and torque wrench, tighten the Spill Container onto the Riser Adaptor to a torque value between **75 and 100 FT. LBS.**

(7) The container is ready for installation of a rotatble adaptor and dust cap.

(8) **SC-85100 Only**. Upon final installation, ensure there is at least 4 inches between the top of the container and top of the stainless steel sleeve. Test the drain valve as described in CARB procedure TP-201.1D.

THE USE OF UNAPPROVED TOOLS, OR IMPROPER TORQUING OF THE SPILL CONTAINER WILL VOID ANY AND ALL APPLIED WARRANTIES.

MAINTENENCE:

(1) Apply an even coat of Silicon based spray to the inside of the stainless steel sleeve to ease removal. Remove the Spill Container using an approved installation tool (Phil-Tite T-7043-1).

(2) Inspect the flat lower seal (container to riser seal) for cuts or damage, replace if neccesary.

(3) Remove the snap-ring and foam filter from the inside of container. Inspect the foam filter, ensure it is not torn or damaged, replace if neccesary.

(4) With the snap ring and foam filter removed, loosen the allen screw in the top clamp and remove the valve assembly by pulling up on the valve handle.

(5) Remove the O-Ring from the bottom of the container and inspect for cuts or damage, replace if neccesary.

(6) Inspect the boot-screen assembly and ensure there are no cracks or cuts. If the boot-screen assembly requires replacement, loosen the allen screw on the bottom clamp and seperate clamp-handle assembly from boot-screen assembly.

(7) Inspect the O-Ring on the shut off collar for cuts or damage, replace if neccesary.

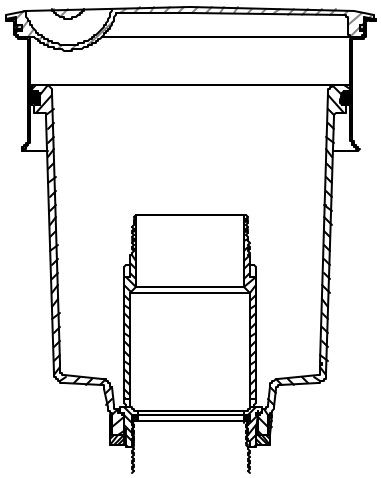
(8) Reassemble container in reverse order. Ensure that the valve assembly is properly adjusted so that when the handle is moved back and forth, the valve assembly moves up and down freely without binding. **NOTE: The bail handle must snap into place when moved to the closed position!**

(9) Reinstall the container using the installation instructions provided and test the drain valve pressure integrity as described in CARB procedure TP-201.1D.

PLEASE CONTACT PHIL-TITE ENTERPRISES FOR A SCHEDULE OF "HOW-TO" CLASSES OFFERED FOR THE INSTALLATION OR REPAIR OF ALL PHIL-TITE PRODUCTS.

Figure 2F

Phil-Tite 85001-NV Vapor Recovery Spill Container and Inner Assembly



Please detach here, fill out completely, and promptly mail back to manufacturer.

Phil-Tite Enterprises, Inc.
3732 Electro Way
Redding, CA 96002
Phone - 530-223-7400
Fax - 530-223-7418

WARRANTY CARD

This product is warranted by Phil-Tite Enterprises, Inc. against defective material and workmanship for 1 (one) year from installation date. We will repair/replace, as we deem necessary, product that has been verified defective by a representative of our company. Any damage caused by either freight or wrongful installation are not covered under this warranty. This warranty does not cover normal wear, or force majeure - caused by fire, flood, earthquake, explosion, war, or acts of God. Seals and O-rings are not a warranty item. Warranty is null and void if: a) item is disassembled, b) item is installed improperly, or c) warranty label has been tampered with or is removed from product.

Expiration Date: _____

Serial Number: _____

Model Number: _____ Mfg. Number: _____

This card must be returned to manufacturer for warranty to be honored

TO BE FILLED OUT BY INSTALLER/MAINTENANCE PERSON

Name of Maintenance/Service Company: _____

Address: _____

_____

Date of Install: _____

Name and Location of Install: _____

_____

_____

_____

PHIL-TITE 85000 SERIES SPILL CONTAINERS

Phil-Tite Spill Containers are designed to provide easy installation or removal of the container without the need for timely excavation or disassembly of secondary containment covers. Phil-Tite drain valves provide fast and complete removal of excess liquid spilled during a gasoline delivery operation while maintaining a vapor tight, reliable seal that eliminates leaks into the environment.

INSTALLATION:

(1) Ensure there is adequate clearence to provide at least 4 inches between the top of the Spill Container and the top of the stainless steel sleeve once final installation is complete. Use a tape measure to verify.

(2) Inspect the container ensuring that the flat lower seal is in place and properly oriented for sealing with the Riser Adaptor and top of drop tube.

(3) **SC-85100 Only**. Inspect the inner foam filter located inside the container. The filter should be resting on the bottom, secured by the snap ring.

(4) **SC-85100 Only**. Move the bail handle back and forth making sure that the lower assembly rises when moved to the open position and compresses when closed. The bail handle should move freely with no binding and snap into place when moved to the closed postion.

(5) **NOTE! DO NOT USE ANY TYPE OF THREAD SEALING COMPOUND FOR SPILL CONTAINER INSTALLATION!** Apply an even coat of Silicon based spray to the large, outer seal of the container and the inside of the stainless steel sleeve to ease insertion. By hand, thread the container onto the Riser Adaptor taking care not to cross thread. Phil-Tite Spill Containers create an optimum, leak free seal when properly tightened to the tank riser as described in item #6.

(6) Using an approved installation tool (Phil-Tite T-7043-1 Tool Kit) and torque wrench, tighten the Spill Container onto the Riser Adaptor to a torque value between **75 and 100 FT. LBS.**

(7) The container is ready for installation of a rotatble adaptor and dust cap.

(8) **SC-85100 Only**. Upon final installation, ensure there is at least 4 inches between the top of the container and top of the stainless steel sleeve. Test the drain valve as described in CARB procedure TP-201.1D.

THE USE OF UNAPPROVED TOOLS, OR IMPROPER TORQUING OF THE SPILL CONTAINER WILL VOID ANY AND ALL APPLIED WARRANTIES.

MAINTENENCE:

(1) Apply an even coat of Silicon based spray to the inside of the stainless steel sleeve to ease removal. Remove the Spill Container using an approved installation tool (Phil-Tite T-7043-1).

(2) Inspect the flat lower seal (container to riser seal) for cuts or damage, replace if neccesary.

(3) Remove the snap-ring and foam filter from the inside of container. Inspect the foam filter, ensure it is not torn or damaged, replace if neccesary.

(4) With the snap ring and foam filter removed, loosen the allen screw in the top clamp and remove the valve assembly by pulling up on the valve handle.

(5) Remove the O-Ring from the bottom of the container and inspect for cuts or damage, replace if neccesary.

(6) Inspect the boot-screen assembly and ensure there are no cracks or cuts. If the boot-screen assembly requires replacement, loosen the allen screw on the bottom clamp and seperate clamp-handle assembly from boot-screen assembly.

(7) Inspect the O-Ring on the shut off collar for cuts or damage, replace if neccesary.

(8) Reassemble container in reverse order. Ensure that the valve assembly is properly adjusted so that when the handle is moved back and forth, the valve assembly moves up and down freely without binding. **NOTE: The bail handle must snap into place when moved to the closed position!**

(9) Reinstall the container using the installation instructions provided and test the drain valve pressure integrity as described in CARB procedure TP-201.1D.

PLEASE CONTACT PHIL-TITE ENTERPRISES FOR A SCHEDULE OF "HOW-TO" CLASSES OFFERED FOR THE INSTALLATION OR REPAIR OF ALL PHIL-TITE PRODUCTS.

Figure 2G

Phil-Tite 85011 Spill Container Lid

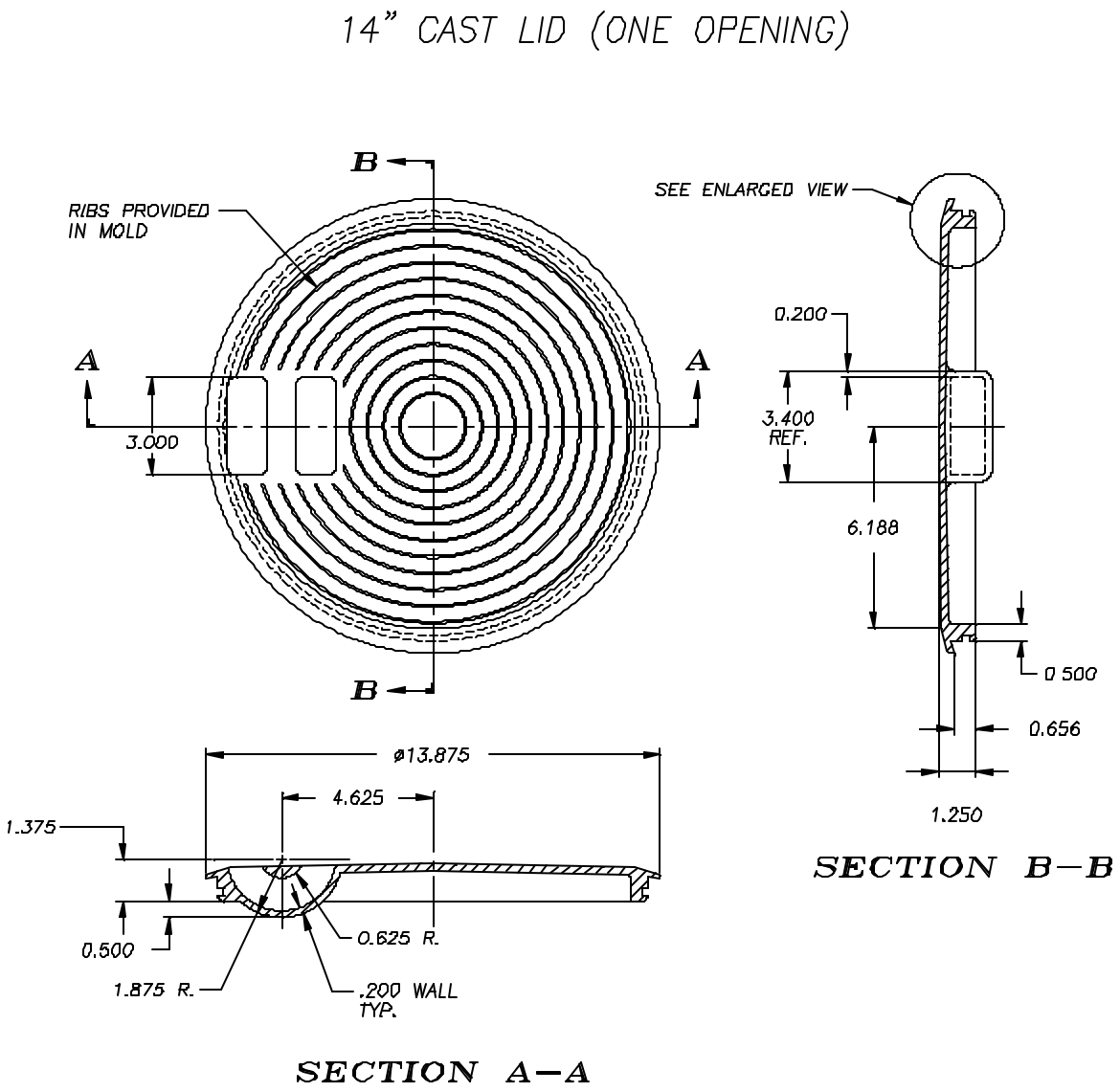
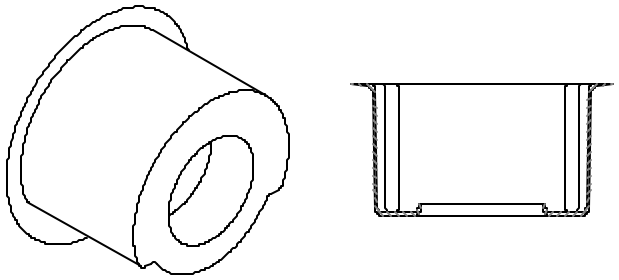
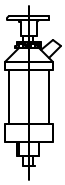


Figure 2H

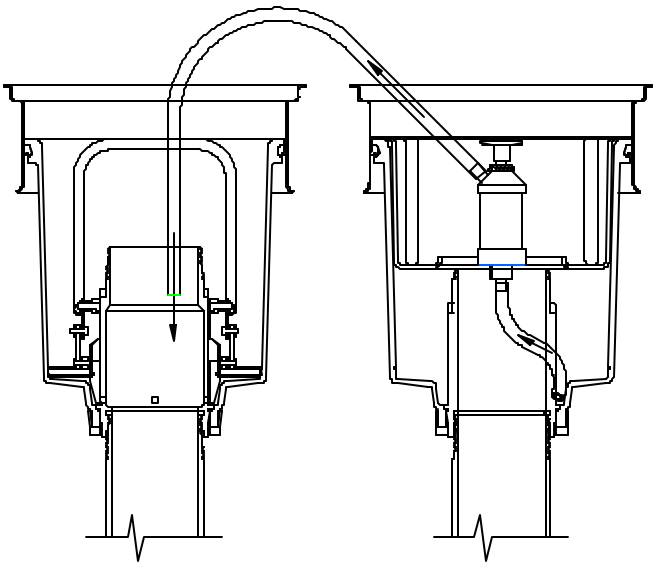
Phil-Tite Debris Bucket
Part Number PP 1005 TB (Product) (required)
Part Number PP 1005 TBP (Vapor) (optional)
Phil-Tite Hand Pump EP-400-VB (optional)



Debris Bucket



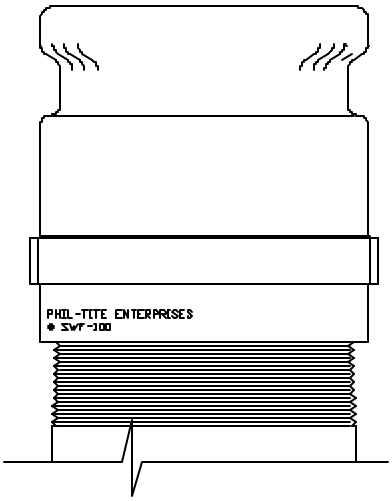
Hand Pump
(installd in vapor
debris bucket only)



Hand Pump Operation

Figure 2I

Phil-Tite SWF-100-B Rotatable Product Adaptor



Please detach here, fill out completely, and promptly mail back to manufacturer.

Phil-Tite Enterprises, Inc.
3732 Electro Way
Redding, CA 96002
Phone - 530-223-7400
Fax - 530-223-7418

WARRANTY CARD

This product is warranted by Phil-Tite Enterprises, Inc. against defective material and workmanship for 1 (one) year from installation date. We will repair/replace, as we deem necessary, product that has been verified defective by a representative of our company. Any damage caused by either freight or wrongful installation are not covered under this warranty. This warranty does not cover normal wear, or force majeure - caused by fire, flood, earthquake, explosion, war, or acts of God. Seals and O-rings are not a warranty item. Warranty is null and void if a) item is disassembled, b) item is installed improperly, or c) warranty label has been tampered with or is removed from product.

Expiration Date: _____

Serial Number: _____

Model Number: _____ Mfg. Number: _____

This card must be returned to manufacturer for warranty to be honored

TO BE FILLED OUT BY INSTALLER/MAINTENANCE PERSON

Name of Maintenance/Service Company:

_____

Address:

_____

_____

Date of Install: _____

Name and Location of Install:

_____

_____

_____

_____

SWF-100-B & SWV-101-B ROTATABLE ADAPTORS

The **PHIL-TITE SWF-100-B & SWV-101-B** rotatable adaptors are designed to produce a free turning, 360 degree rotation of a fuel delivery elbow which prevents the adaptors from overtightening or loosening on the spill container riser.

INSTALLATION:

(1) Remove the adaptor from the box and inspect for shipping damage. Ensure that the riser seal is in place and free from damage or defects. **(SWV-101-B ONLY)** Ensure that the vapor poppet opens and closes freely by actuating the poppet by hand.

(2) **NOTE! DO NOT USE ANY TYPE OF THREAD SEALANT FOR INSTALLATION.** Phil-Tite adaptors are designed to create an optimum, leak free seal when properly tightened as described in item #4.

(3) By hand, thread the adaptor onto the spill container riser taking care not to cross thread.

(4) Using a torque wrench and an adaptor installation tool (PHIL-TITE TOOL KIT # T-7043-1), tighten to a torque value between the range of **50 AND 75 FT. LBS.**

(5) Once properly tightened, install a compatible dust cap. The adaptors are ready for operation.

WARNING! THE USE OF UNAPPROVED TOOLS OR IMPROPER INSTALLATION WILL VOID ANY AND ALL APPLIED WARRANTIES.

MAINTENANCE:

The Phil-Tite rotatable adaptors are not field serviceable with the exception of the vapor poppet and vapor poppet seal found on the SWV-101-B. To replace either of the components:

(1) Remove the SWV-101-B adaptor from the spill container riser using an installation tool (PHIL-TITE TOOL KIT # T-7043-1).

(2) Using a compatible pair of snap ring pliers, remove the snap ring from the inside of the rotatable adptor.

(3) After removing the snap ring, remove the brass spider, spring and vapor poppet through the bottom of the adaptor.

(4) With the vapor poppet removed, inspect the poppet and poppet seal for cuts, tears or damage. Replace if necessary.

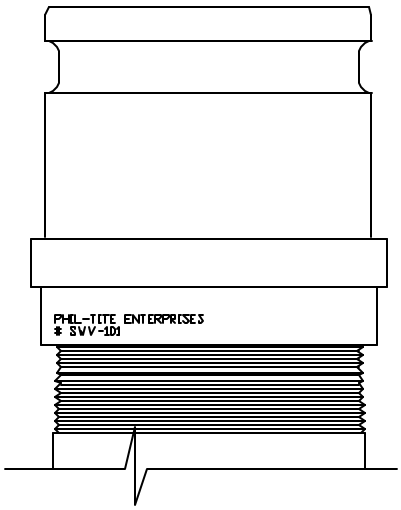
(5) Reassemble the vapor poppet, spring and brass spider in the reverse order from which they were removed.

(6) Replace the snap ring and actuate the poppet by hand, making sure the assembly is secure and actuates properly.

(7) Reinstall and properly torque the SWV-101-B on the spill container riser as described under "INSTALLATION".

Figure 2J

Phil-Tite SWV-101B Rotatable Vapor Adaptor



Please detach here, fill out completely, and promptly mail back to manufacturer.

Phil-Tite Enterprises, Inc.
3732 Electro Way
Redding, CA 96002
Phone - 530-223-7400
Fax - 530-223-7418

WARRANTY CARD

This product is warranted by Phil-Tite Enterprises, Inc. against defective material and workmanship for 1 (one) year from installation date. We will repair/replace, as we deem necessary, product that has been verified defective by a representative of our company. Any damage caused by either freight or wrongful installation are not covered under this warranty. This warranty does not cover normal wear, or force majeure - caused by fire, flood, earthquake, explosion, war, or acts of God. Seals and O-rings are not a warranty item. Warranty is null and void if a) item is disassembled, b) item is installed improperly, or c) warranty label has been tampered with or is removed from product.

Expiration Date: _____

Serial Number: _____

Model Number: _____ Mfg. Number: _____

This card must be returned to manufacturer for warranty to be honored

TO BE FILLED OUT BY INSTALLER/MAINTENANCE PERSON

Name of Maintenance/Service Company:

_____

Address:

_____

_____

Date of Install: _____

Name and Location of Install:

_____

_____

_____

_____

SWF-100-B & SWV-101-B ROTATABLE ADAPTORS

The **PHIL-TITE SWF-100-B & SWV-101-B** rotatable adaptors are designed to produce a free turning, 360 degree rotation of a fuel delivery elbow which prevents the adaptors from overtightening or loosening on the spill container riser.

INSTALLATION:

(1) Remove the adaptor from the box and inspect for shipping damage. Ensure that the riser seal is in place and free from damage or defects. **(SWV-101-B ONLY)** Ensure that the vapor poppet opens and closes freely by actuating the poppet by hand.

(2) **NOTE! DO NOT USE ANY TYPE OF THREAD SEALANT FOR INSTALLATION.** Phil-Tite adaptors are designed to create an optimum, leak free seal when properly tightened as described in item #4.

(3) By hand, thread the adaptor onto the spill container riser taking care not to cross thread.

(4) Using a torque wrench and an adaptor installation tool (PHIL-TITE TOOL KIT # T-7043-1), tighten to a torque value between the range of **50 AND 75 FT. LBS.**

(5) Once properly tightened, install a compatible dust cap. The adaptors are ready for operation.

WARNING! THE USE OF UNAPPROVED TOOLS OR IMPROPER INSTALLATION WILL VOID ANY AND ALL APPLIED WARRANTIES.

MAINTENANCE:

The Phil-Tite rotatable adaptors are not field serviceable with the exception of the vapor poppet and vapor poppet seal found on the SWV-101-B. To replace either of the components:

(1) Remove the SWV-101-B adaptor from the spill container riser using an installation tool (PHIL-TITE TOOL KIT # T-7043-1).

(2) Using a compatible pair of snap ring pliers, remove the snap ring from the inside of the rotatable adptor.

(3) After removing the snap ring, remove the brass spider, spring and vapor poppet through the bottom of the adaptor.

(4) With the vapor poppet removed, inspect the poppet and poppet seal for cuts, tears or damage. Replace if necessary.

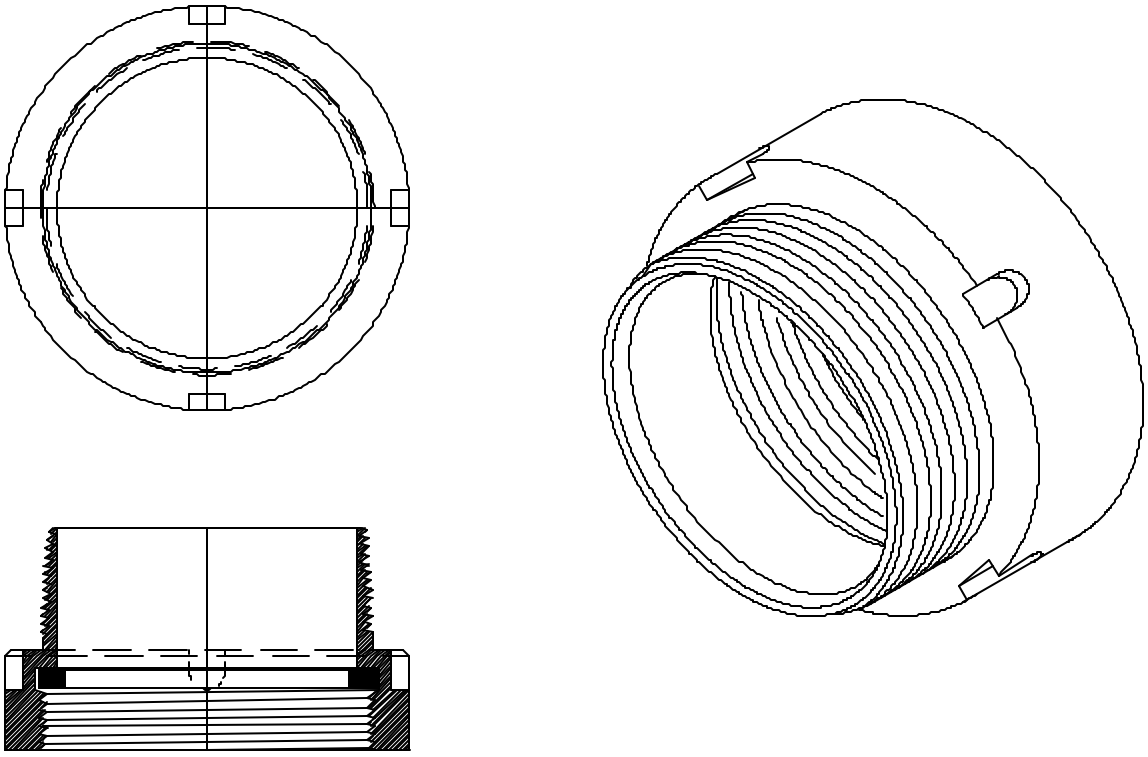
(5) Reassemble the vapor poppet, spring and brass spider in the reverse order from which they were removed.

(6) Replace the snap ring and actuate the poppet by hand, making sure the assembly is secure and actuates properly.

(7) Reinstall and properly torque the SWV-101-B on the spill container riser as described under "INSTALLATION".

Figure 2K

Phil-Tite Model M/F4X4 Riser Adaptor



PHIL-TITE M/F4X4 RISER ADAPTOR

The Phil-Tite M/F4X4 Riser Adaptor is designed to provide a flat, true sealing surface for the installation of a gasket sealed, threaded component such as a Spill Container, Threaded Adaptor or storage tank gauging device.

INSTALLATION:

1. If installing a Spill Container on the M/F4X4, determine the final riser height required to meet finished grade and then subtract 1-3/4" to include the M/F4X4 Riser Adaptor. For all other components, determine the desired final riser height including the M/F4X4. Cut and thread the riser pipe to the appropriate height.

2. Apply a gasoline resistant, non-hardening thread sealant to the threads of the riser pipe ***only.*** By hand, thread the M/F4X4 onto the riser pipe.

3. Using an approved Installation Tool (Phil-Tite T-7043-1 Tool Kit), tighten the M/F4X4 onto the riser to a torque value between **150 and 175 Foot-Pounds**.

4. If installing a drop tube at the product fill riser, install the provided drop tube gasket under the drop tube flange and insert the tube into the tank.

5. Install a Spill Container, threaded adaptor or tank gauging equipment onto the Riser Adaptor ensuring that it is installed in conjunction with the ***Manufacturers Recommended Installation Instructions.***

WARNING! THE USE OF UNAPPROVED TOOLS OR IMPROPER INSTALLATION WILL VOID ANY AND ALL APPLIED WARRANTIES.

Figure 2L

Phil-Tite Removal and Installation Kit for Rotatable Adaptors and Spill Containers

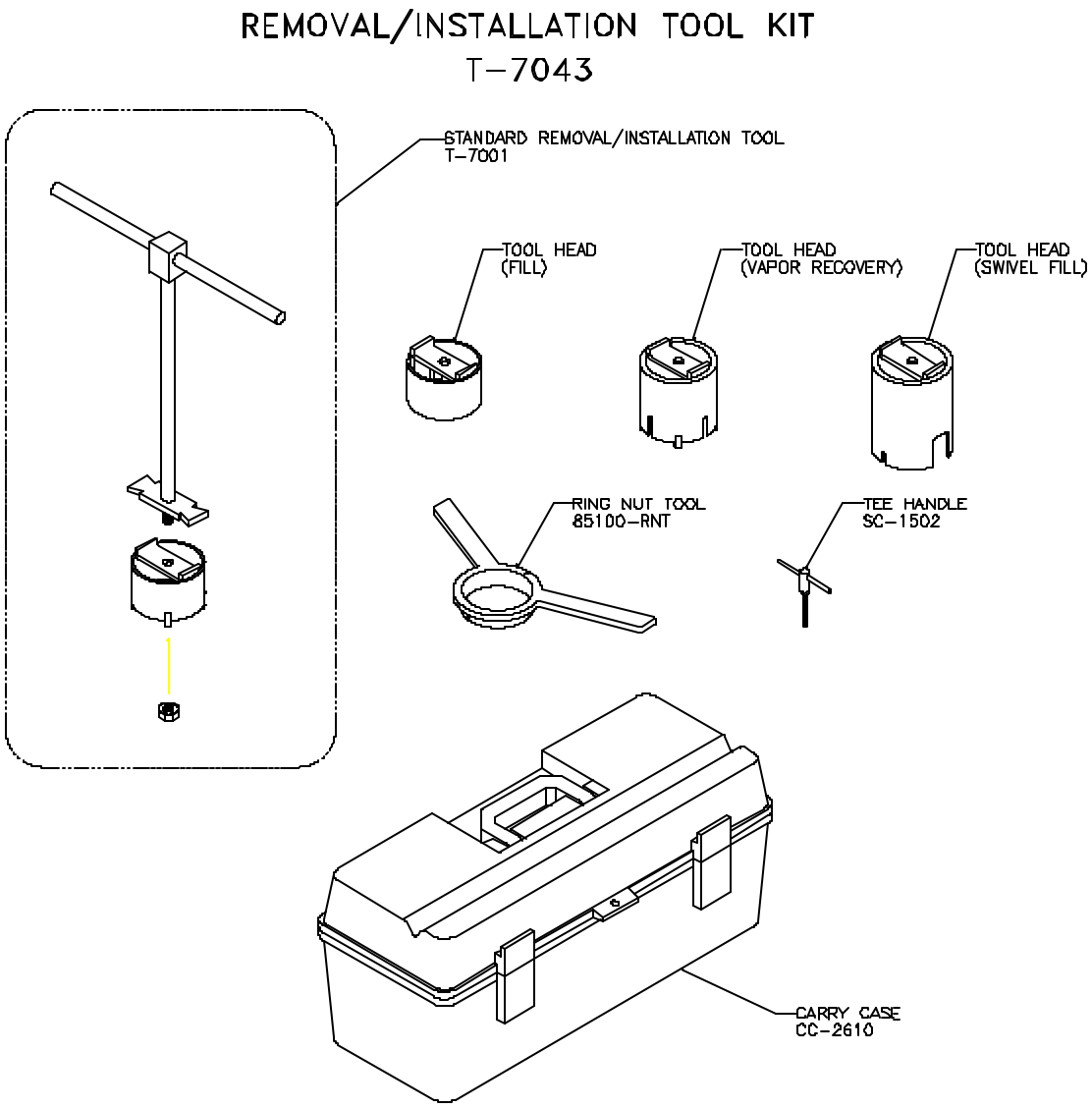
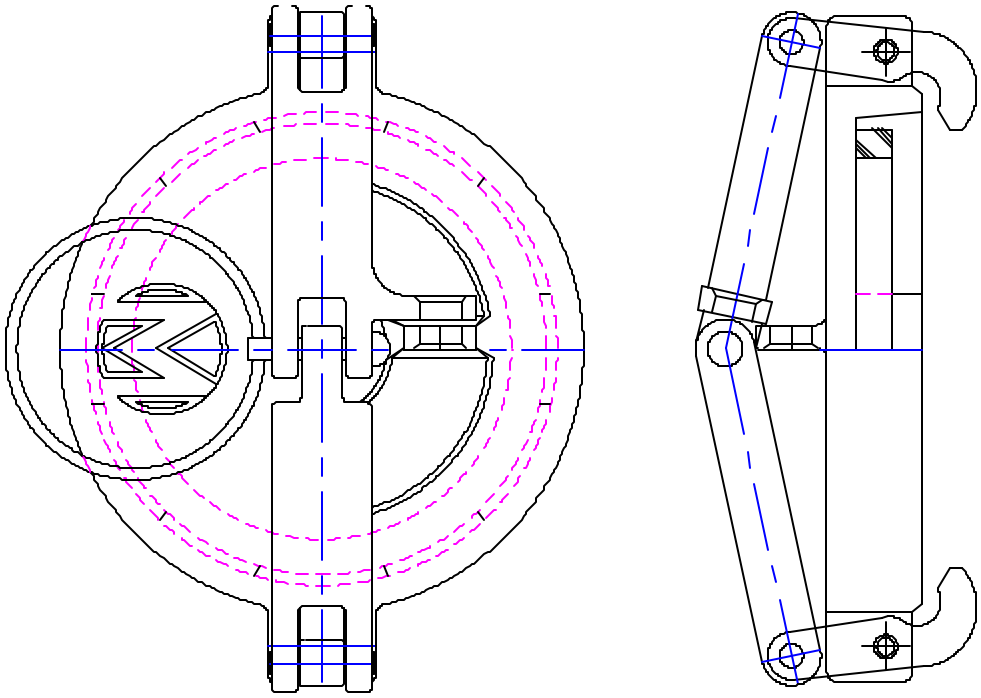


Figure 2M

Morrison Brothers 323C Vapor Recovery Adaptor Cap

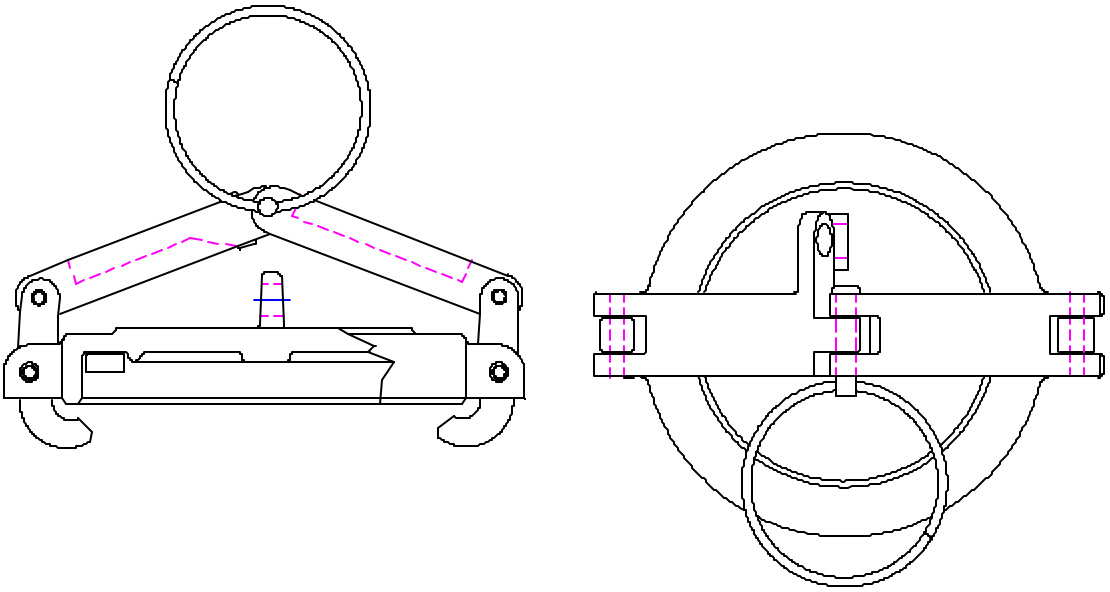


WARRANTY—All Morrison products are thoroughly tested before shipment and only material found to be defective in manufacture will be replaced. Claims must be made within one year from the date of invoice. Morrison Bros. Co. will not allow claims for labor or consequential damage resulting from purchase, installation, or misapplication of the product.

MORRISON BROS. CO.
24th and Elm Street
P.O. Box 238
Dubuque, IA 52001

Figure 2N

Morrison Brothers 305C Product Adaptor Cap



WARRANTY—All Morrison products are thoroughly tested before shipment and only material found to be defective in manufacture will be replaced. Claims must be made within one year from the date of invoice. Morrison Bros. Co. will not allow claims for labor or consequential damage resulting from purchase, installation, or misapplication of the product.

MORRISON BROS. CO.
24th and Elm Street
P.O. Box 238
Dubuque, IA 52001

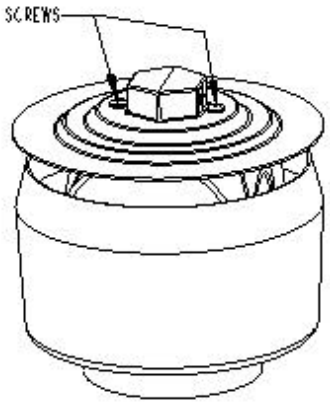
Figure 2O

Husky Model 4885 2-Inch Threaded Pressure/Vacuum Vent Valve

PRESSURE/VACUUM VENT MODEL 4885 INSTALLATION AND MAINTENANCE INSTRUCTIONS

INSTALLATION

The P/V Vent is designed to fit on top of a 2" vent pipe. Remove the P/V Vent from the carton and visually inspect for any shipping damage.



Model 4885 Thread-On P/V Vent

Apply fuel resistant pipe sealant to the threads on the 2" vent stack. Screw the P/V Vent onto the vent stack and tighten to a range of 20 to 50 ft-lbs with a suitable wrench. DO NOT OVER-TIGHTEN. Periodic maintenance is recommended (see below).

MAINTENANCE

Annually inspect the P/V Vent valve for foreign objects without removing the P/V Vent valve from the vent pipe by using the following procedure:

1. Remove the screws that hold the top cover on.
2. Remove any debris that might be sitting inside the lower cover.
3. Check the drain holes in the lower cover for blockage.
4. The two (2) screens should not be removed.
5. Reinstall the top cover and retaining screws.
6. Tighten the screws firmly.

NOTE: DO NOT ALTER OR COVER THE P/V VENT

HUSKY CORPORATION ● 2325 HUSKY WAY ● PACIFIC, MO 63069

www.husky.com *PH*ONE: 800-325-3558 009041 – 5 6/5/02
(REVERSE SIDE IS 009063) 009041 – 4 12/10/01

PRESSURE VACUUM VENT WARRANTY INFORMATION

Husky Corporation will, at its option, repair, replace, or credit the purchase price of any Husky manufactured Pressure Vacuum Vent which proves upon examination by Husky, to be defective in material and/or workmanship within EIGHTEEN (18) MONTHS from the date of shipment for any Husky Pressure Vacuum Vent, except as otherwise provided herein. For all other Husky manufactured product, see Husky Form No. PS2002-Term (4/15/02) at www. husky.com.

The warranty period on repaired or replacement product is only for the remainder of the warranty period. Buyer must return the products to Husky, transportation charges prepaid. This Warranty does not apply to equipment or parts which have been installed improperly, damaged by misuse, improper operation or maintenance, or which are altered or repaired in any way other than by Husky.

The Warranty provisions contained herein apply ONLY to original purchasers and subsequent commercial purchasers within the warranty period who use the equipment for commercial or industrial purposes. THERE ARE NO OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE, AND ANY OTHER SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

Husky assumes NO LIABILITY for labor charges or other costs incurred by Buyer incidental to the service, adjustment, repair, return, removal or replacement of products. HUSKY ASSUMES NO LIABILITY FOR ANY INCIDENTAL, CONSEQUENTIAL, OR OTHER DAMAGES UNDER ANY WARRANTY, EXPRESS OR IMPLIED, AND ALL SUCH LIABILTY IS HEREBY EXPRESSLY EXCLUDED.

Husky reserves the right to change or improve the design of any Husky fuel dispensing equipment without assuming any obligations to modify any fuel dispensing equipment previously manufactured.

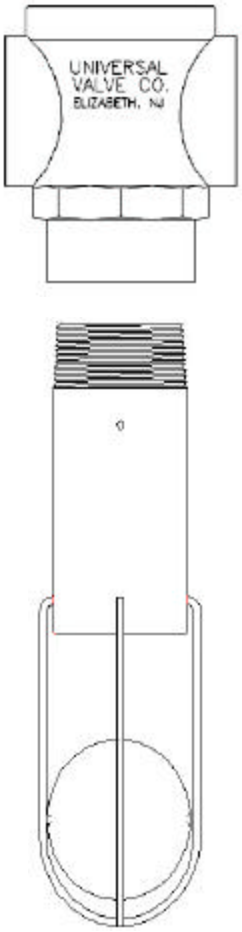
HUSKY CORPORATION ● 2325 HUSKY WAY ● PACIFIC, MO 63069
www.husky.com **PHONE: 800-325-3558**

009063– 0 6/5/02

Figure 2P

Universal Model Number 37 Series Ball Float Vent Valve
And Model V421 Series Extractor Fitting

Installation Instruction for Model 37 Series Float Vent Valve and Model V421 Extractor Fitting



1. **Apply a non-hardening, gasoline resistant, pipe compound to the threads of Model 37 before installing the unit into the cage assembly of the Universal Model V421 Extractor Fitting. Tighten the Model 37 into the cage assembly to a torque of approximately 45 ft.-lbs.**

2. **Apply a non-hardening, gasoline resistant, pipe compound to the threads of the cage assembly to facilitate removal at a later date. Install the cage assembly into the Model V421 to a torque of approximately 45 ft-lbs. Use caution when installing the cage assembly into the Model V421. Do not over tighten. Make sure the ball moves freely.**

3. **Apply a non-hardening, gasoline resistant, pipe compound to the threads of the Extractor Fitting and hand tighten the assembly into the tank bung. Tighten the Extractor Assembly into the tank to a torque of approximately 150 ft.-lbs.**

<u>Maintenance</u>

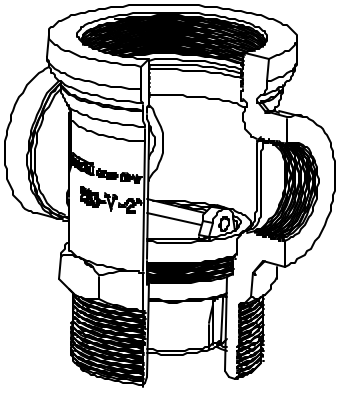
Annually, inspect the Model 37 to ensure proper operation. Check to ensure that the ball moves freely within the cage and that the bleed hole allows free airflow.

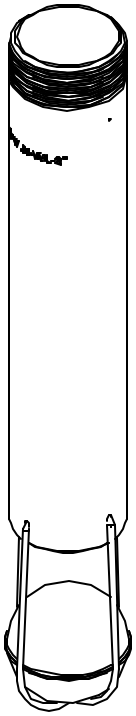
WARNING! This product is only to be used on gravity drop systems. DO NOT use this product if the tank is being filled by means of a pump.

Universal Valve Co., Inc.
478 Schiller Street
Elizabeth, NJ 07206
Phone: (800) 223 –0742
Fax: (908) 351-0369

Figure 2Q

OPW Model 53 VM SeriesBall Float Vent Valve And 233 Series Extractor





OPW Installation and Maintenance Instructions
53VM AND 233 SERIES BALL FLOAT / EXTRACTOR ASSEMBLIES

IMPORTANT: Please read these warnings and use the assembly instructions completely and carefully before starting. Failure to do so may cause product failure, or result in environmental contamination due to liquid leakage into the soil, creating hazardous spill conditions.

IMPORTANT: Check to make sure the unit is intact and undamaged and all parts have been supplied. Never substitute parts for those supplied. Doing so may cause product failure and void warranty.

WARNING-DANGER: Using electrically operated equipment near gasoline or gasoline vapors may result in a fire or explosion, causing personal injury and property damage. Be sure that the working area is free from such hazards, and always use proper precautions. NOTE: At all times when product is in the storage tank keep the riser pipe capped, so the vapors cannot escape into the environment.

Notice: OPW products must be used in compliance with applicable federal, state, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and material to be handled. OPW makes no warranty of fitness for a particular use. All illustrations and specifications in this literature are based on the latest production information available at the time of publication. Prices, materials, and specification are subject to change at any time, and models may be discontinued at any time, in either case, without notice or obligation.

WARNING: OPW Overfill Warning Systems should only be used on submerged pumping systems, and not with suction pump systems. OPW Overfill Warning Systems should only be used on gravity drop systems. DO NOT use where Pump Off Unloading is used.

IMPORTANT: Installing the incorrect length OPW 53V Ball Float Vent Valve for your specific application may result in delivery flow restriction at tank levels exceeding requirements established by the U.S. EPA. Always consult the appropriate tank charts and determine the specifics of your tank installation to determine the appropriate length OPW 53V to be installed. The illustration and instructions on the back of this sheet are intended to serve as a guide in this determination.

Field Installation Instructions

1. **Apply a non-hardening, gasoline** resistant pipe compound on the ball float nipple threads. Install the extractor cage-assembly onto the ball float nipple. (Recommend torques, 3"NPT thread, 125 ft-lbs min. to 200 ft-lbs max, 2"NPT thread, 100 ft-lbs min. to 150 ft-lbs max.) **DO NOT USE TEFLON TAPE**

2. Thread the 233 Series OPW Extractor Fitting into the tank bung fitting. (Recommend torque, 4"NPT thread, 125" ft-lbs min. to 250 ft-lbs max.) Thread the Ball Float and cage assembly into the 233 extractor fitting using the OPW 89 Extractor Wrench. (Recommend torque, 3 3/4-8 thread, 75 ft-lbs min. to 150 ft-lbs max.)

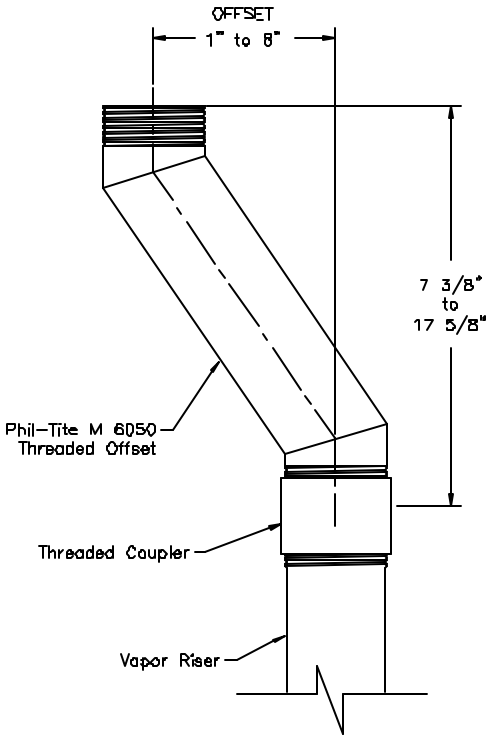
3. Make sure Ball Float moves freely, full stroke, without binding.

4. **Preventative Maintenance** - Every three years, remove and inspect the valve for damage, contamination, corrosion, freedom of movement of the ball float, and check the bleeder orifice for proper airflow. Replace if damaged or corroded.

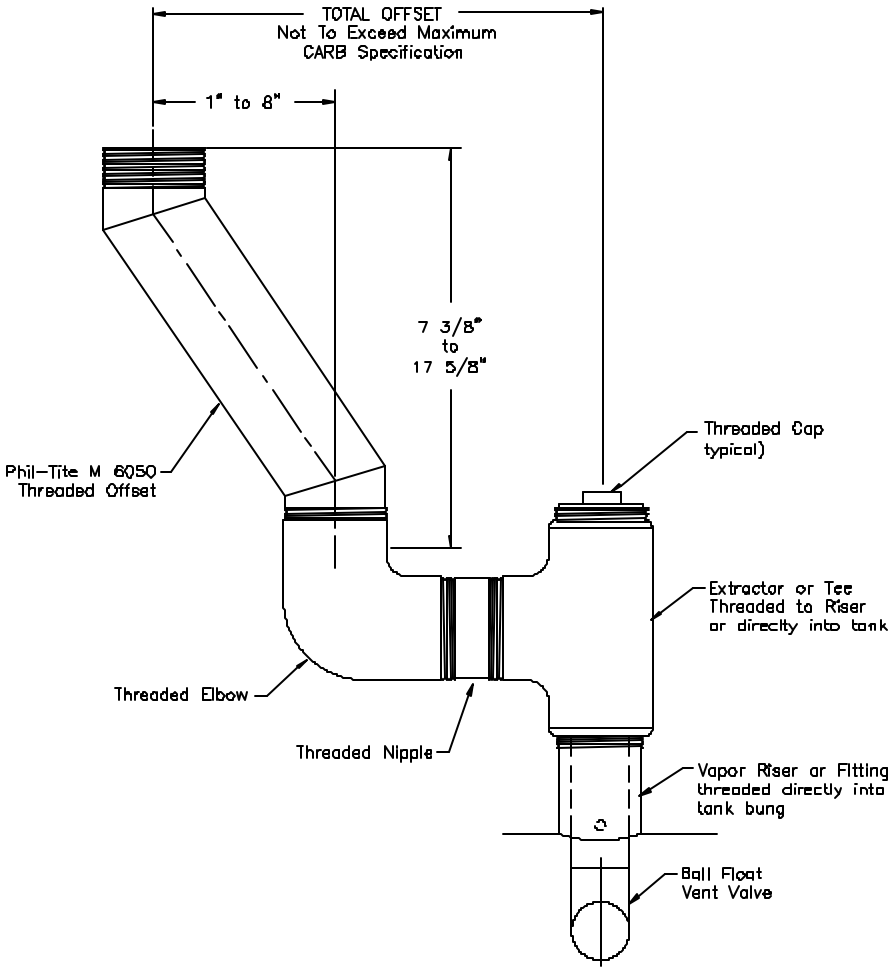
Figure 2R

Phil-Tite Model M-6050 Vapor Recovery Riser Offset

Offset Using Straight Riser



Offset Using Ball Float



Phil-Tite M-6050 Vapor Riser Offset

INSTALLATION:

(1) On the underground storage tank, measure the tank bungs from center to center and then subtract 16 inches from that measurement. The result will match the size of the M-6050 Vapor Riser Offset required which also includes additional space for connections or fittings.

Example: If the tank bungs measure out to 22 inches center to center and you subtract 16 inches, you will have a maximum size, 6-inch M-6050 Vapor Riser Offset for your application.

(2) Apply a gasoline resistant, non-hardening thread sealant to the TANK END ONLY of the M-6050 using the sealant manufacturers recommended instructions. The use of sealant on the spill container end varies by manufacturer.

(3) By hand, thread the M-6050 into the pipe coupler or threaded fitting depending on your configuration (see figures). By hand, thread the entire assembly onto the underground storage tank.

Note: If a Ball Float Vent Valve is to be installed, you must use a threaded connection to allow the installation and removal of the Ball Float Vent Valve.

(4) Tighten the M-6050 and threaded fittings to a torque value between the range of **150 and 200 Ft-lbs** .

Figure 2S

Typical Phil-Tite Double Fill Configuration

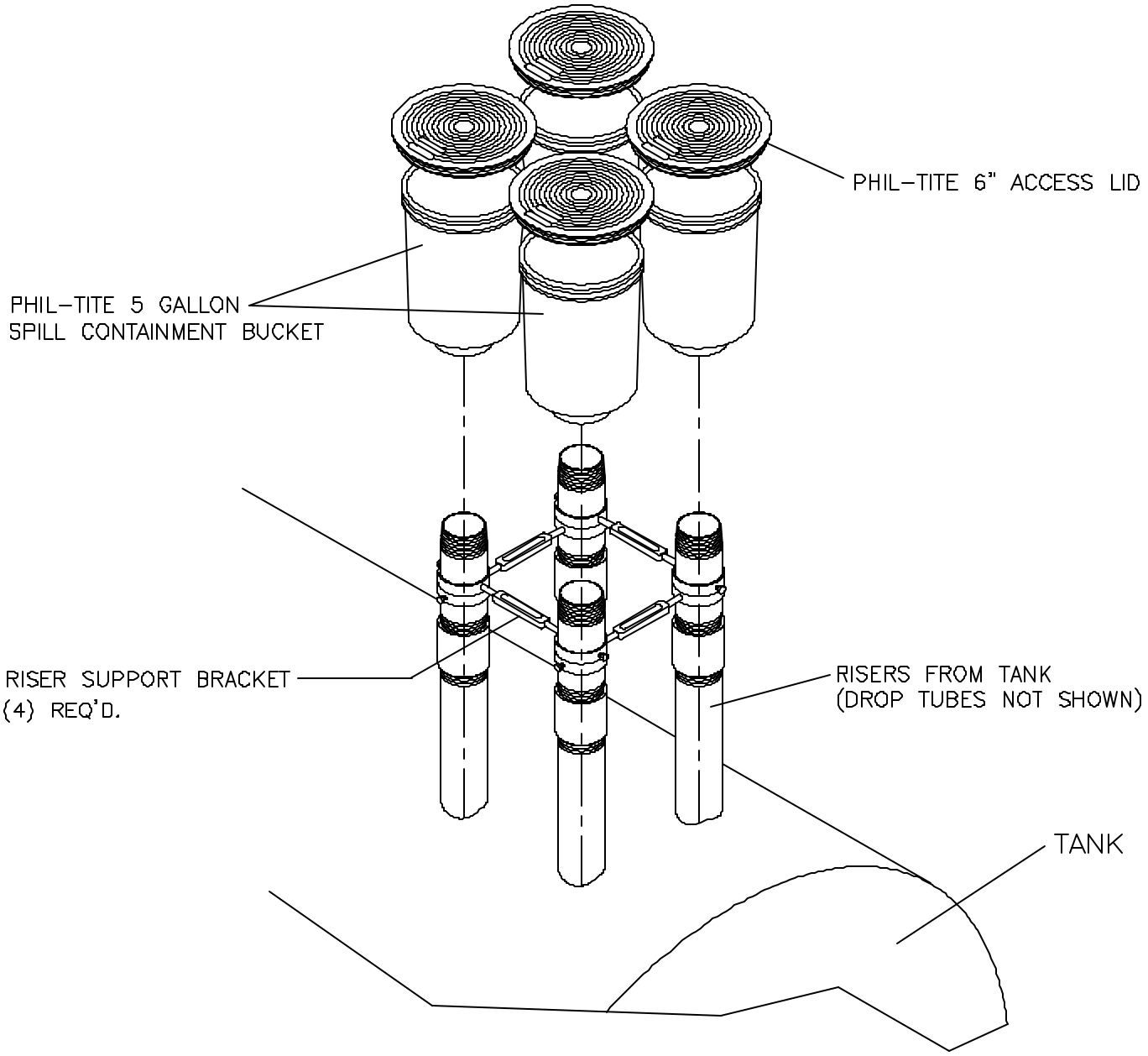


Figure 2T

Ever-Tite Tank Part # 4097AGBR Fill Pipe Adaptor for Tank Gauge Probe
And Part #4097MBR Fill Pipe Adaptor Cap

Ever-Tite Coupling Products
Fill Pipe Adaptor, Part #4097AGBR

Ever-Tite Coupling Products
Fill Pipe Adaptor Cap, Part #4097MBR

Installation Instructions

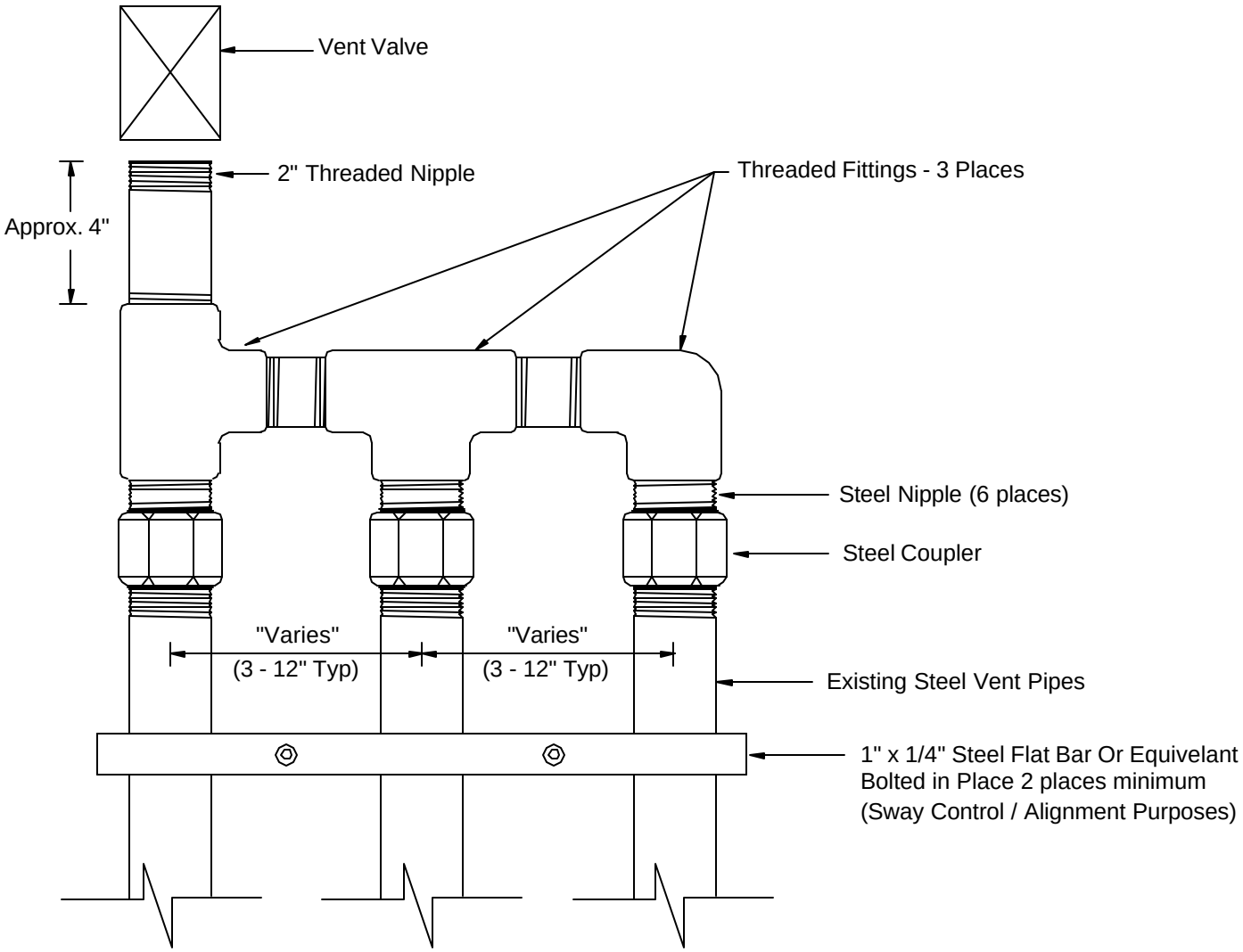
1. Thread by hand to avoid cross threading.

2. Tighten adaptor to 75 to 100 foot-pounds torque.

Warranty
The Company warrants its goods to be free from defects in material and workmanship as represented in our catalogs or applicable drawings and specifications agreed to by us at the time of acceptance of the order by Ever-Tite Coupling Products. Our obligation under this warranty shall be limited to repairing or replenishing any parts which shall, within one (1) year after shipment to the original purchaser, be demonstrated to be defective. This warranty is expressly in lieu of all other warranties, express or implied, including the warranties of merchantability and fitness. No person, firm or corporation is authorized to assume for us any other liability in connection with the sale of these goods.

Figure 2U

Typical Vent Pipe Manifold



Note: This figure represents one instance where three vent pipes have been manifolded into one single outlet. However, a maximum of three Husky Model 4885 Threaded Pressure/Vacuum Vent Valves may be used on a single Gasoline Dispensing Facility.